

REMARKS

Response to Arguments

The Examiner's indication that the previous arguments were persuasive is appreciated. The new grounds of rejection are addressed below.

Claim Rejections – 35 U.S.C. §103

Claims 1, 2, 8-9, 14, 16, 22-23, 26 and 31 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.K. Patent Application No. 2,304,209 A to MacDonald et al. ("MacDonald") and Applicant's Admitted Prior Art (AAPA).

The Examiner has indicated that MacDonald does not teach or disclose at least the limitation of claim 1 of "an application and file storage device configured to read and write data files, one or more of the data files including the basic input/output system (BIOS) interface."

However, the Examiner appears to assert that the non volatile storage device (NVSD) of MacDonald is equivalent to the application and file storage device (AFSD) of claim 1. The Examiner also indicates that "claim 1 differs from MacDonald, in that, claim 1 generalizes an application and file storage device configured to read and write data files, one or more of the data files including the basic input/output system (BIOS) interface, while MacDonald does not have specific indication of a BIOS." Office Action p. 3. However, the Examiner asserts that "it would have been obvious ...to modify the system of MacDonald to include a BIOS as one of the data files because it was well known to provide an interface between the operating system and hardware."

This obviousness rejection is respectfully traversed. To the contrary, the non volatile storage device of MacDonald is not equivalent to the AFSD of claim 1. As was discussed at length in the previous responses, the present application distinguishes between a code storage device (CSD), which is non-volatile, and an AFSD, which is also non-volatile. See pages 1 – 2 of the application.

There is no disclosure within MacDonald teaching storing user applications and data files on non-volatile storage device (NVSD) 7 of MacDonald. In fact, MacDonald appears to teach that storage devices *other than* NVSD 7 would be used to store user applications and data files. While NVSD 7 is taught to hold operating software for the system (page 5, lines 15-16) as well

as the initial operating code, (page 2, line 36) “other non-volatile storage devices” are taught by MacDonald as being accessed after the CPU is started up (page 3, line 1). It appears, therefore, that the “other non-volatile storage devices” taught by MacDonald would be equivalent to an AFSD, because many of the user files and applications that would be stored in the AFSD would be of the type that are accessed *after* the CPU is started up. However, those “other non-volatile storage devices” do not contain the basic input/output system as required by the claim, because that is in NVSD 7. Again, NVSD 7 of MacDonald is only taught to hold operating software and initial startup code, and as such it appears similar to a code storage device, as discussed in the present application.

Therefore, one of skill in the art would not conclude that the NVSD 7 of MacDonald is equivalent to the claimed AFSD. Thus, it does not follow, as asserted by the Examiner, that “it would have been obvious ...to modify the system of MacDonald to include a BIOS as one of the data files because it was well known to provide an interface between the operating system and hardware.” Again, this is because the disclosure of MacDonald indicates that NVSD 7 of MacDonald is not equivalent to the claimed general purpose application and file storage device, which is also used to hold the basic input/output system (in order to reduce the number of storage devices). As such, MacDonald does not teach, or render obvious, alone or in combination with the admitted prior art, “an application and file storage device configured to read and write data files, one or more of the data files including the basic input/output system (BIOS) interface.” It is submitted that claim 1 is therefore in condition for allowance.

Claims 2, and 8-9 depend from claim 1 and are therefore also in condition for allowance for all of the reasons above. Other arguments related to the limitations of these dependent claims will appear throughout the response in the course of addressing the Examiner’s various rejections.

Independent claim 14 recites the step of “copying a portion of a BIOS from an application and file storage device into RAM” which is also not taught or rendered obvious by MacDonald, alone or in combination with the admitted prior art for reasons similar to those given above. Claim 16 is depends from claim 14 and is allowable for the same reasons as claim 14.

Independent claim 22 and dependent claims 23 and 26 were rejected under the same rationale as claims 1 and 2 above, and are allowable for the same reasons given above related to those claims.

Independent claim 31 was rejected using the same rationale as for the rejection of claims 1, 14, and 22 above and is allowable for the same reasons given above.

Claims 3-4, 15, 20-21, 25 and 32-33 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.K. Patent Application No. 2,304,209 A to MacDonald and Applicant's Admitted Prior Art (AAPA) and U.S. Patent No. 5,579,522 to Christeson et al. ("Christeson").

The Examiner states that "as per claims 3, 20, and 32, MacDonald and AAPA disclose the claimed invention as detailed above in the previous paragraphs. However, MacDonald and AAPA do not specifically teach that the application and file storage device is a flash memory device as recited in the claim." However, as discussed above, MacDonald and the AAPA do not teach or render obvious claims 3, 20, and 32. Nor does Christeson disclose flash memory as an application and file storage device. Therefore, the combination of MacDonald, the admitted prior art, and Christeson does not render the claims obvious, as will be discussed below.

The application and file storage device in Christeson is the data storage device 106 seen in Christeson's Figure 1. The hardware/software interface (BIOS in PC terminology) is not stored in this storage device 106 but in flash memory 103. This flash memory is a type of code storage device as distinguished on page 2, lines 2-20 of the present application. The teaching in Christeson that the code storage device can be flash memory (so that it can be easily updated without removing any parts or covers from the computer) does not mean that Christeson teaches the various claim limitations above regarding an application and file storage device. The word "not" was also inadvertently left out of this sentence in the previous response on page 17, and the record should be corrected and reflect that Christeson's use of flash as a code storage device does not in any way mean that Christeson teaches flash memory for use as an application and file storage device, let alone the specific claim limitations reciting how the application and file storage device is used.

In addition to the fact that the combination of MacDonald, the AAPA, and Christeson does not teach the claimed invention, the references would not be combined by one of skill in the art to arrive at the specific limitations of the respective claims. "When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to

combine the references.” In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998). Stated another way, the prior art as a whole must “suggest the desirability” of the combination. In re Beattie, 974 F.2d 1309, 1311 (Fed. Cir. 1992) (internal quotation omitted); Winner Int’l Royalty Corp. v. Wang, 202 F.3d 1340 (Fed. Cir. 2000). “A reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” Para-Ordnance Mfg. v. SGS Importers Int’l, 73 F.3d 1085, 1090, 37 USPQ2d 1237, 1241 (Fed. Cir. 1995) (quoting In re Gurley, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994)). Christeson teaches away from using the claimed loading logic circuit and therefore cannot be properly combined with MacDonald to arrive at the claimed invention. Also, having read Christeson, one of skill in the art would be discouraged from following the path set out in MacDonald.

As per claims 4, 21, 25, and 33, the Examiner relies on a combination of MacDonald, the admitted prior art, and Christeson to render these claims obvious. Each of these dependent claims specifies a particular type (magnetic or optical) of application and file storage device. In this combination, the Examiner relies upon Christeson to indicate the one of skill in the art would use the magnetic or optical disk as an application and file storage device for storing the BIOS or basic software/hardware interface. However, Christeson specifically teaches that BIOS should be stored in a type of code storage device, that of flash memory 103. Thus, not only does the combination of the three references not teach all of the limitations of the these claims and the underlying claims from which they depend, Christeson teaches away from the claims and one of skill in the art would not make such a combination. Therefore, it is submitted that claims 4, 21, 25, and 33 are not obvious and are in condition for allowance.

Claim 15 also cannot be rendered obvious by this combination. Christeson, alone or in combination with the other references, does not teach multiple BIOSs, as asserted by the Examiner. The Examiner points to Col. 2, lines 41-55 as teaching this. This portion of Christeson teaches using different blocks or regions of memory to store the BIOS. It in no way teaches the claim 15 limitation “wherein the storage device includes multiple BIOSs and wherein a user can select which BIOS to copy from the application and file storage device into RAM.”

Claims 10-13 and 34-35 are rejected under 35 U.S.C. §103(a) as being unpatentable over MacDonald, Applicant's Admitted Prior Art, and U.S. Patent No. 5,592,641 to Fandrich et al. ("Fandrich").

The Examiner relies on Fandrich as teaching a write protect mechanism in order to render claim 10 obvious in combination with the other references. This rejection is not well taken, as it appears to rely on hindsight. Claim 10 recites "the system of claim 1 wherein the loading logic circuitry comprises a write protect mechanism that prevents the location of the storage device having the BIOS from being overwritten." Fandrich does not teach anything relating to a BIOS or to loading logic circuitry, nor has the Examiner pointed to anything specifically within either of the references that would lead one of skill in the art to combine the references. Thus, the Examiner appears to impermissibly pick and choose among the prior art using the claim as a roadmap. Claims 34-35 were rejected under the same rationale as claim 10 and cannot be rendered obvious by the combination of MacDonald, the admitted prior art, and Fandrich for the same reasons.

The rejection of claims 11-13 and 34-35 also relies upon impermissible hindsight to combine Fandrich with the other references. Additionally the write strobe signals in dependent claims 11 and 12 (along with the other specific recitations of those claims) are simply not taught by MacDonald, as alleged by the Examiner. The power on values (POVs) of MacDonald are not part of a write protect mechanism and do not teach a write protect mechanism, let alone the specifics of the write protection mechanism claimed in claims 10-13.

Therefore, it is submitted that claims 10-13 and 34-35 are in condition for allowance.

Claim 24 is rejected under 35 U.S.C. §103(a) as being unpatentable over MacDonald, Applicant's Admitted Prior Art, and U.S. Patent No. 5,579,522 to Christeson et al. ("Christeson") and further in view of U.S. Published Patent Application No. 2002/0138702 to Gefen et al. ("Gefen").

Claim 24 depends from claim 22 and recites that "the application and file storage device is a NAND flash memory device." The combination of MacDonald, the admitted prior art, Christeson fails to teach an interface between an operating system and a hardware device, stored in an application and file storage device, as defined by the present application. Furthermore, the combination would not be made by one of skill in the art to arrive at the claimed combination for reasons previously discussed. The addition of Gefen does not remedy the shortcomings of the

combination of MacDonald, the admitted prior art, and Christeson. While it is true that Gefen discloses the use of NAND flash memory, Gefen is directed towards being able to execute from what is otherwise a non-executable memory architecture (NAND). Nothing in these teachings would lead one of skill in the art to combine it with the already tenuous combination of MacDonald, the admitted prior art, and Christeson. The fact that NAND flash memory is arguably cheaper and requires less routing resources than RAM memory does not provide a sufficient motivation to combine. In fact, Gefen discusses at length the many difficulties encountered in using NAND flash memory. Again, it appears as if one of skill in the art would not combine Gefen with the other references without the benefit of hindsight. Also, to reiterate, even if it was combined, the combination still does not teach all of the limitations of claim 24 and the claims from which it depends.

Claims 5-7, 17-19, 27 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over MacDonald, Applicant's Admitted Prior Art, and U.S. Patent No. 6,216,224 to Klein ("Klein").

Claims 5-7 depend from independent claim 1. Claims 17-19 depend from independent claim 14, and claims 27 and 29 depend from independent claim 22. These dependent claims are allowable for all the reasons discussed above relating to their respective independent claims. As mentioned previously, the combination of MacDonald and the admitted prior art cannot properly render the base independent claims obvious. Klein does not remedy the shortcomings of that combination with regard to either the independent or the dependent claims.

One of skill in the art would not combine MacDonald and the admitted prior art with Klein because the present application discourages following the path set out in Klein. In particular, the present application discourages usage of a ROM for storing the BIOS, and also therefore discourages or teaches away from the practice of shadowing the BIOS from ROM to RAM, as is taught in Klein, and as was discussed in the previous responses. Therefore, one of skill in the art would be actively dissuaded from combining the teachings, and would not arrive at the claimed invention.

Claims 28 and 30 are rejected under 35 U.S.C. §103(a) as being unpatentable over MacDonald and Applicant's Admitted Prior Art (AAPA) and U.S. Patent No. 6,154,838 to Le et al. ("Le").

Dependent claims 28 and 30 depend from independent claim 22 and are allowable for all reasons regarding claim 22 discussed above. Le, like Klein teaches storing the BIOS on ROM and shadowing it to RAM. See Le Abstract. One of skill in the art would not combine MacDonald and the admitted prior art with Le because the present application discourages following the path set out in Le. In particular, the present application discourages usage of a ROM for storing the BIOS, and also therefore discourages or teaches away from the practice of shadowing the BIOS from ROM to RAM, as is taught in Le, and as was discussed in the previous responses. Therefore, one of skill in the art would be actively dissuaded from combining the teachings, and would not arrive at the claimed invention.

In conclusion, it is respectfully submitted that all of the pending claims are not rendered obvious by MacDonald in combination with the various other cited references.

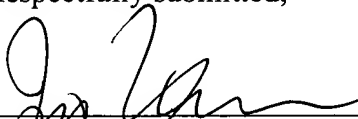
Information Disclosure Statement

A Supplemental Information Disclosure Statement is being filed herewith.

Conclusion

Accordingly, it is believed that this application is now in condition for allowance and an early indication of its allowance is solicited. However, if the Examiner has any further matters that need to be resolved, a telephone call to the undersigned attorney at 415-318-1162 would be appreciated.

Respectfully submitted,



James S. Hsue
Reg. No. 29,545

January 31, 2006

Date

PARSONS HSUE & DE RUNTZ LLP
595 Market Street, Suite 1900
San Francisco, CA 94105
(415) 318-1160 (main)
(415) 318-1162 (direct)
(415) 693-0194 (fax)